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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,126	08/28/2006	Koki Tamura	SHIGA7.037APC	2877

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EXAMINER
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HAMILTON, CYNTHIA

ART UNIT	PAPER NUMBER
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1795

NOTIFICATION DATE	DELIVERY MODE
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11/05/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/560,126	<b>Applicant(s)</b> TAMURA ET AL.	
	<b>Examiner</b> Cynthia Hamilton	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12/09/05, 11/30/2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/9/5</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 7-8 and 17-18 are rejected under 35 U.S.C. 101 because each of these claims fails to be limited to only one statutory class of invention. These claims are drawn both to a composition, i.e. a positive resist composition, and a process, i.e. "used for...." either exposure or forming a layer. This rejection is made if applicants are trying to claim both the composition and the method of using the composition as set forth in the same claim. Rejections based on clarity follow, in case, applicants did not intend to claim more than one statutory class of invention.

3. Claims 7 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 7 and 17 are as follows:

7. **(Previously presented)** A positive resist composition according to claim 1, wherein said positive resist composition is used for exposure with a KrF excimer laser or an electron beam.

17. **(New)** A positive resist composition according to claim 3, wherein said positive resist composition is used for exposure with a KrF excimer laser or an electron beam.

The language in both is essentially the same. It is unclear in both claims if a composition is being claimed with the properties of being able to be exposed or if the exposed composition is being claimed or if an intended use of the composition is being claimed. Thus, claims 7 and 17 are indefinite.

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4. Claims 7 and 17 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

5. Claims 8 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 8 does not clearly claim either a positive resist composition or a method of using a positive resist composition.

a. If claims 8 and 18 are meant to be drawn to the positive resist composition with the intended properties of being able to be used in the forming of a resist layer in the manner described then, the language does not clearly set this forth because of the use of "is used" is active language suggesting that a method of formation is to be claimed. Thus, claims 8 and 18 are confusing for this reason.

b. If claims 8 and 18 are meant to be drawn to the product of (1) a resist layer on top of a substrate and a magnetic film provided on top of said substrate, or (2) resist layer on top of a metallic oxidation prevention film provided on top of "said magnetic film", then this is not clear from the language used either as the claim starts with "a positive resist composition... is used...".

c. If claims 8 and 18 are drawn to a process of forming a resist on a substrate then this is not clear because "is used" does not make clear that a process is being claimed.

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d. If a “use” is claimed then the following rejections are made:

i. Claims 8 and 18 provide for the use of a positive resist composition according to claim 1, but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

ii. Claims 8 and 18 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 9-10 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 9 and 19 is found “but can be dry etched”. What is meant by this is unclear. For examination purposes, the examiner has assumed --- but can be dry etched --- for the intended meaning.

4. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. First, there are two etching steps in the process of claim 11 and claim 13

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references "said etching step". The exact wording would point to the second etching step but because two etching steps are present in claim 11, the antecedent basis for "said etching step" in claim 13 is unclear. The examiner suggests "said etching step to form a fine pattern on said substrate". Second, the "based" in "halogen-based gas" is held indefinite because the limits of "based" when referencing halogen is unclear. Is the gas never only halogen but halogen and something else as it is "based" on halogen? Is the gas only halogen as it is 'based' on halogen? The term "based" without definite leaves unclear the scope of what is claimed.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 5, 7-8 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Gronbeck et al (US 2003/0099899 A1). With respect to instant claims 1-2 and 7-8, the compositions of Example 10 of Gronbeck et al anticipate the instant composition and inherently have the ability to be used as set forth in instant claims 7-8. With respect to instant claims 3, 5 and 17-18, the compositions of Examples 8, 17-10 and 23 of Gronbeck et al anticipate the instant composition and inherently have the ability to be used as set forth in instant claims 17-18. "A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. *In re Slayter*, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); *In re Gosteli*, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

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7. Claims 1-2 and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogata et al (US 2002/0025495 A1). With respect to instant claims 1-2 and 7-8, the Comparative Example in [0089] to [0090] of Ogata et al is a species of composition which anticipates the instant composition. "A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. *In re Slayter*, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); *In re Gosteli*, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989). The intended use, if this is what was meant by the claim language, set forth in instant claims 7-8 for the composition is inherently achievable with the composition of Ogata et al.

8. Claims 1-2, 7-8 and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Tokyo Ohka Kogyo Co LTD (JP 2001-051422 A) as evidenced by AN 2001:133887 and the English translation thereof from AIPN. With respect to instant claims 1-2, 7-8 and 9-12, the compositions and methods of Tokyo Ohka Kogyo Co LTD as set forth in [0031 to [0035] anticipate the instant invention with respect to the species set forth and shown structurally with the aid in AN 2001:133887 of RN 326921-67-9.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-12 and 16-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokyo Ohka Kogyo Co LTD (JP 2001-051422 A) as evidenced by AN 2001:133887 and the English translation thereof from AIPN in view of Gronbeck et al (US 2003/0099899 A1).

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Tokyo Ohka Kogyo Co LTD teach the formation of photoresists hydroxybenzyl silsesquioxane units, hydroxybenzyl silsesquioxane units wherein the "alkali solubility machine", i.e. the hydroxy group, with a "dissolution inhibition machine of acid dissociation nature, i.e. an acid labile group and a third unit selected from the group consisting of norbornyl, phenyl, naphthyl or benzyl silsesquioxane. The example as set forth in [0031 to [0035] makes use of this three unit silsesquioxane with a phenyl group reading on the instant invention with respect to a species in claim 1 and generally teaching the use of acid cleavable groups inclusive of chain-like acetal residue as desirable in [0012] with respect to instant claim 3. With respect to instant claims 1-16, the understanding of workers in the art when reading chain-like acetal residue as acid cleavable group is in view of Gronbeck et al in Examples 8, 17-10 and 23 inclusive of groups with instant R8 being cyclohexane. Thus with respect to instant claims 1-12 and 16-17 and 19, the use of the acetals in the polymers of Tokyo Ohka Kogyo Co LTD would have been prima facie obvious substitution of one known acid cleavable acetal for another expected to yield equivalent results. In Tokyo Ohka Kogyo Co LTD, see particularly claim 2, 4, 9 and [0006] and [0012], [0012], [0014] to [0018], [0029], and [0031]. The addition of a separate dissolution inhibitor as an optional additive is set forth in [0020] as "an acid dissociation nature machine" in Tokyo Ohka Kogyo Co LTD and its use to maximize the developability of the photoresist by balancing the acid degrading units present would have been prima facie obvious.

11. Claims 14-15 is -rejected under 35 U.S.C. 103(a) as being unpatentable over Tokyo Ohka Kogyo Co LTD (JP 2001-051422 A) as evidenced by AN 2001:133887 and the English translation thereof from AIPN in view of Gronbeck et al (US 2003/0099899 A1) as applied to claim 11 above, and further in view of SUgeta et al (US 2003/0008968 A1). With respect o



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instant claims 14-15, the use of well known coated thermal flow processes as set forth by Sugeta et al in prior art methods such as that made obvious above would have been prima facie obvious to reduce the pattern dimension. In Sugeta, see particularly the Abstract and claims and summary of the invention.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. With respect to the various substrates in the method claims and laminate claims upon known in the art WO 2005-003196 is cited as showing the desire to use these but no motivation is found to use the instant compositions in place of those set forth.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Hamilton whose telephone number is 571-272-1331.

The examiner can normally be reached on Monday through Friday 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571) 272-0729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

27 October 2008

/Cynthia Hamilton/  
Primary Examiner, Art Unit 1795